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EXAMINER	
FEELY, MICHAEL J	

ART UNIT	PAPER NUMBER
1712	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/913,405	TAKAI ET AL.	
	Examiner	Art Unit	
	Michael J Feely	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *18-22,38,43,54 and 55* is/are allowed.

6)☒ Claim(s) *1-7,9-13,15-17,23-32,35-37,39-42,44-53,56 and 57* is/are rejected.

7)☒ Claim(s) *14,33 and 34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. All of the priority documents are now on file.

Pending Claims

2. Claims 1-7 and 9-57 are pending.

Claim Objections

3. The objection to claims 5, 6, 8, 13, 15, 20-22, 27, 31-34, and 40-42 have been overcome by amendment.

Specification

4. The objection to the disclosure has been overcome by amendment.

Claim Rejections - 35 USC § 112

5. The rejection of claim 8 under 35 U.S.C. 112, second paragraph, has been rendered moot by the cancellation of claim 8.

6. The rejection of claims 14 and 16 under 35 U.S.C. 112, first paragraph, has been overcome by amendment.

Claim Rejections - 35 USC § 102

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. The rejection of claims 23, 26, 29, and 30 are under 35 U.S.C. 102(e) as being anticipated by Murai et al. (US Pat. No. 6,437,090) stands. This rejection is further clarified below. Claims 27, 31, 32, 48, 49, 50, and 51 are also rejected.

Regarding claims 23 and 26, Murai et al. disclose ***(23)*** a resin composition which comprises (iii-1) a monomer having at least one functional group having ionic polymerizability (column 40, line 36 through column 45, line 58), (iii-2) a polymeric compound having at least one functional group having ionic polymerizability (column 45, lines 59-63), (3) a thermally-activating ionic polymerization catalyst which can dissolve by heating and crystallize by cooling (column 4, line 66 through column 5, line 33), said polymerization catalyst having a substituted hydrocarbon group having a carbon number of more than 10, a nonsubstituted hydrocarbon group having a carbon number of more than 10, or a cyclic organic structure having a more than 10 carbon number hydrocarbon group (column 5, lines 34-47); and ***(26)*** wherein said polymeric compound (iii-2) is an acrylic resin (column 45, lines 59-63) comprising said monomer (iii-1) containing 3,4-epoxyclyclohexylmethyl (meth)acrylate (column 44, lines 36-45; column 45, lines 57-59).

Murai et al. do not explicitly disclose that their composition is "for insulating a laminated printed circuit board". However, this recitation has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Regarding claims 27, 48, and 49, Murai et al. disclose ***(27)*** wherein the thermally-activating ionic polymerization catalyst (3) contains at least one selected from the group

consisting of a cationic polymerization catalyst (3') and a metal compound (3") (column 23, line 43 through column 26, line 11); ***(48)*** wherein said metal compound *see claims for specific structures* (3") is a metal chelate complex (column 23, line 43 through column 6, line 11); and ***(49)*** wherein said metal compound is selected from the group of aluminum chelates *see claims for specific structures* (column 23, line 43 through column 26, line 11).

Regarding claims 29 and 30, Murai et al. disclose ***(29)*** a curable resin composition which comprises (iv-1) an epoxy resin having ionic polymerizability (column 40, line 36 through column 45, line 58) and (3) ionic polymerization catalyst which can dissolve by heating and crystallize by cooling (column 4, line 66 through column 5, line 33), said polymerization catalyst having a substituted hydrocarbon group having a carbon number of more than 10, a nonsubstituted hydrocarbon group having a carbon number of more than 10, or a cyclic organic structure having a more than 10 carbon number hydrocarbon group (column 5, lines 34-47); and ***(30)*** wherein said epoxy resin (iv-1) is a polyfunctional epoxy resin and at least one of said epoxy groups is a cycloaliphatic epoxy group (column 44, lines 18-35).

Murai et al. do not explicitly disclose that the ionic polymerization catalyst is "thermally activated"; however, the chemical structures of these catalysts are exactly the same as those used throughout the instant claims and specification. It has been found that, "Products of identical chemical compositions can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada* – 911, F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Regarding claim 32, Murai et al. disclose a protecting layer comprising a coating formed from curing the curable resin composition set forth in claim 29, wherein said protecting layer is deposited on a substrate (column 57, line 37 through column 58 line 28).

Murai et al. do not explicitly disclose that their composition is "for color-filter". However, this recitation has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Regarding claims 31, 50, and 51, Murai et al. disclose ***(31)*** wherein the thermally-activating ionic polymerization catalyst (3) contains at least one selected from the group consisting of a cationic polymerization catalyst (3') and a metal compound (3") (column 23, line 43 through column 26, line 11); ***(50)*** wherein said metal compound *see claims for specific structures* (3") is a metal chelate complex (column 23, line 43 through column 6, line 11); and ***(51)*** wherein said metal compound is selected from the group of aluminum chelates *see claims for specific structures* (column 23, line 43 through column 26, line 11).

Claim Rejections - 35 USC § 102/103

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. The rejection of claims 24 and 28 under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Murai et al. (US Pat. No. 6,437,090) stands. This rejection is reiterated below:

Regarding claims 24, Murai et al. disclose the composition of claim 23, wherein (iii-1) has 1-2 epoxy groups per molecule and at least one of said epoxy groups is a cycloaliphatic epoxy group (column 40, line 36 through column 45, line 58).

Murai et al. do not explicitly disclose that monomer (iii-1) has a viscosity of not more than 1,000 cP @ 25°C; however, it has been found that, "products of identical chemical composition can not have mutually exclusive properties." A chemical composition *(or compound)* and its properties are inseparable; therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed Cir. 1990).

Therefore, if not explicitly taught in the reference, then the teachings would have been obvious to one of ordinary skill in the art at the time of the invention.

Regarding claim 28, Murai et al. disclose an electric laminated printed board comprising: a substrate coated with the resin composition according to claim 23, wherein said coating is cured (column 57, lines 49-54; column 58, lines 21-27: *electronic parts; electric insulation material; print board; laminate board*).

Murai et al. do not explicitly disclose that the printed circuit board has intermediate insulating layers; however, these layers are an inherent feature of printed circuit boards. Printed circuit boards are multi-layer laminates, for example, wherein resin layers and especially resin prepreg layers are used as intermediate insulating materials between layers featuring circuitry.

Therefore, if not explicitly taught in the reference, then the teachings would have been obvious to one ordinary skill in the art at the time of the invention.

Claim Rejections - 35 USC § 103

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12. The rejection of claim 8 has been rendered moot by the cancellation of claim 8.

13. The rejection of claims 19 has been overcome by amendment.

14. The rejection of claims 1-7, 9-13, 16, 17, 25, 35-37, 39, and 41 are under 35 U.S.C. 103(a) as being unpatentable over Ikushima et al. (US Pat. No. 6,015,848) in view of Murai et al. (US Pat. No. 6,437,090) stands. Claims 15, 40, 42, 44, 45, 46, 47 52, 53, 56 and 57 are also rejected.

Regarding claims 1-7 13, 15 and 44, Ikushima et al. disclose ***(1 and 13)*** a curable resin composition (column 2, lines 50-67) which comprises (i-1) an epoxy compound having ionic polymerizability (column 2, lines 55-57; column 3, lines 1-29; column 37, lines 22-55; ***column 40, line 36 through column 45, line 58***); (i-2) an acrylic resin having an ionic polymerizable functional group (column 2, lines 58-61); and (3) a thermally activating ionic polymerization catalyst (column 2, lines 62-65) which can be dissolved by heating and crystallized by cooling (column 6, lines 44-57; column 7, lines 4-11 and 15-20); ***(2)*** wherein said epoxy compound (i-1) has 1-2 epoxy groups per molecule and at least one of said epoxy groups is a cycloaliphatic epoxy group (column 3, lines 1-29; column 37, lines 22-55); ***(3)*** wherein said acrylic resin (i-2) has a hydroxyl group and a glycidyl group and/or a cycloaliphatic epoxy group (column 3, line 30 through column 4, line 31); ***(4 and 5)*** wherein the thermally-activating ionic polymerization

catalyst (3) contains at least one selected from the group consisting of a cationic polymerization catalyst (3') and a metal compound (3") (column 6, line 54 through column 7, line 34); ***(6)*** wherein said cationic polymerization catalyst (3') is at least one selected from the group consisting of a sulphonium salt, an iodonium salt, an aromatic iron compound, an organosilicon compound, and a hydroxy functional aromatic compound *see instant claims for specific structures* (column 6, line 53 through column 7, line 35; column 22, line 47 through column 29, line 6); ***(7)*** wherein said metal compound *see claims for specific structures* (3") is a metal chelate complex (column 24, line 38 through column 29, line 6); ***(15)*** a coated article comprising a substrate and a coating on said substrate, wherein said coating is formed from curing the curable resin composition set forth in claim 1 (Abstract); and ***(44)*** wherein said metal compound is selected from the group of aluminum chelates *see claims for specific structures* (column 27, line 34 through column 29, line 6).

Murai et al. do not explicitly disclose that their composition is ***(13)*** "for cans". However, this recitation has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Regarding claims 16, 17, 45, 46, 47, 56, and 57, Ikushima et al. disclose ***(16)*** a solvent based coating composition (column 32, lines 25-35) which comprises (ii-1) and epoxy compound having at least two cycloaliphatic epoxy groups in the molecule and a number average molecular

weight of not more than 2,000 (column 2, lines 55-57; ***column 40, line 36 through column 45, line 58***), (ii-2) an acrylic resin containing an epoxy group and having a number average molecular weight of 2,000-50,000, a hydroxyl group value of 10-250 mgKOH/g, and an epoxy equivalent of not more than 300 (column 2, lines 58-61), and (3) a thermally activating ionic polymerization catalyst (column 2, lines 62-65) which can be dissolved by heating and crystallized by cooling (column 6, lines 44-57; column 7, lines 4-11 and 15-20); ***(17)*** wherein said epoxy group in said acrylic resin (ii-2) containing an epoxy group is a cycloaliphatic epoxy group or an epoxy group derived from glycidylmethacrylate (column 3, line 30 through column 4, lines 31); ***(45)*** wherein oxirane concentration is 5-11% by weight in a resin composition composed of said epoxy compound (ii-1) and said acrylic resin (ii-2) containing an epoxy group (column 32, lines 18-35); ***(47)*** a coated article comprising a substrate and a coating on said substrate, wherein said coating is formed from curing the curable resin composition set forth in claim 16 (Abstract); ***(46)*** wherein the thermally-activating ionic polymerization catalyst (3) contains at least one selected from the group consisting of a cationic polymerization catalyst (3') and a metal compound (3") (column 27, line 34 through column 29, line 6); ***(56)*** wherein said metal compound *see claims for specific structures* (3") is a metal chelate complex (column 27, line 34 through column 29, line 6); and ***(57)*** wherein said metal compound is selected from the group of aluminum chelates *see claims for specific structures* (column 27, line 34 through column 29, line 6).

Regarding claim 25, Ikushima et al. disclose ***(25)*** a resin composition which comprises (iii-1) a monomer having at least one functional group having ionic polymerizability (column 2, lines 55-57), (iii-2) a polymeric compound having at least one functional group having ionic

polymerizability (column 2, lines 58-61), and (3) a thermally activating ionic polymerization catalyst (column 2, lines 62-65) which can be dissolved by heating and crystallized by cooling (column 6, lines 44-57; column 7, lines 4-11 and 15-20), wherein said polymeric compound (iii-2 has a cycloaliphatic epoxy group (column 2, lines 58-61; column 3, line 30 through column 4, line 31).

It should be noted that Ikushima et al. do not explicitly disclose that the resin composition is "for insulating a laminated printed circuit board". However, this recitation has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). In the instant case, it merely recites the intended use of the composition, and the body of the claim does not depend on the preamble for completeness.

Regarding claims 35, 37, 40, 41, 42, 52, and 53, Ikushima et al. disclose ***(35 and 41)*** a curable resin composition which comprises (v-1) an epoxy compound having ionic polymerizability (column 2, lines 55-57), (v-4) an oxetane compound having 1-6 oxetane rings per molecule (column 30, line 28 through column 32, line 11), and (3) a thermally activating ionic polymerization catalyst (column 2, lines 62-65) which can be dissolved by heating and crystallized by cooling (column 6, lines 44-57; column 7, lines 4-11 and 15-20); and ***(37)*** wherein said epoxy component (v-1) has 1-4 epoxy groups per molecule and wherein at least one of said epoxy groups is a cycloaliphatic epoxy group (column 3, lines 1-29; column 37, lines 22-

55); ***(42)*** a coated article comprising a substrate and a coating on said substrate, wherein said coating is formed from curing the curable resin composition set forth in claim 35 (Abstract); ***(40)*** wherein the thermally-activating ionic polymerization catalyst (3) contains at least one selected from the group consisting of a cationic polymerization catalyst (3') and a metal compound (3") (column 27, line 34 through column 29, line 6); ***(52)*** wherein said metal compound *see claims for specific structures* (3") is a metal chelate complex (column 27, line 34 through column 29, line 6); and ***(53)*** wherein said metal compound is selected from the group of aluminum chelates *see claims for specific structures* (column 27, line 34 through column 29, line 6).

Regarding claims 36, 37, and 39, Ikushima et al. disclose ***(36)*** a curable resin composition which comprises (v-1) an epoxy compound having ionic polymerizability (column 2, lines 55-57), (v-2) an acrylic resin having a functional group of ionic polymerizability (column 2, lines 58-61), (v-4) an oxetane compound having 1-6 oxetane rings per molecule (column 30, line 28 through column 32, line 11), and (3) a thermally activating ionic polymerization catalyst (column 2, lines 62-65) which can be dissolved by heating and crystallized by cooling (column 6, lines 44-57; column 7, lines 4-11 and 15-20); ***(37)*** wherein said epoxy component (v-1) has 1-4 epoxy groups per molecule and wherein at least one of said epoxy groups is a cycloaliphatic epoxy group (column 3, lines 1-29; column 37, lines 22-55); and ***(39)*** wherein said acrylic resin (v-2) has a hydroxyl group and a glycidyl group and/or a cycloaliphatic group (column 3, line 30 through column 4, line 31).

Ikushima et al. do not explicitly disclose that the viscosity of the epoxy compounds (i-1) and (v-1) is not more than 1,000 cP at 25°C; however, it has been found that, "products of identical chemical composition can not have mutually exclusive properties." A chemical

composition *(or compound)* and its properties are inseparable; therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed Cir. 1990).

In all of the above claims, Ikushima et al. do not use a catalyst with the following structural characteristics: ***having at least a substituted hydrocarbon group having a carbon number of more than 10, or a nonsubstituted hydrocarbon group having a carbon number of more than 10, or a cyclic organic structure having a more than 10 carbon number hydrocarbon group***. Generally, Ikushima et al. use onium salts of nitrogen, sulfur, phosphorus or iodine with a negative ion component of SbF_6^-, SbF_4^-, AsF_6^-, PF_6^-, or the like (column 6, line 53 through column 7, line 34). These thermoinitiated catalysts are desirable because they provide a temperature control mechanism over the crosslinking reaction between the epoxy monomer and the acrylic resin.

Murai et al. teach a resin system that is similar to the one found in Ikushima et al. The resin components are primarily: epoxy monomers, including: cycloaliphatic epoxies, polyfunctional cycloaliphatic epoxies, and vinyl-containing cycloaliphatic epoxies (column 40, line 63 through column 45, line 58); and a methacrylic or acrylic resin (column 45, lines 59-67). The curing catalyst employed by Murai et al. also incorporates a thermoinitiated cationic polymerization catalyst. Murai et al. use onium salts of nitrogen, sulfur, phosphorus, or iodine with a negative ion component of SbF_6^-, SbF_4^-, AsF_6^-, PF_6^-, or the like (column 5, line 47 through column 7, line 46). In addition, Murai et al. also provide the option of using iron aromatic compounds, organosilicon compounds, and hydroxy functional aromatic compounds as the cationic polymerization catalyst (column 5, line 47 through column 7, line 67). All of the

catalyst compounds used by Murai et al. contain either: *1)* a substituted hydrocarbon group having a carbon number of more than 10, *2)* a nonsubstituted hydrocarbon group having a carbon number of more than 10, or *3)* a cyclic organic structure having a more than 10 carbon number hydrocarbon group. ***These catalyst compounds are advantageous because they provide a temperature control mechanism over the crosslinking reaction between the epoxy monomer and the acrylic resin. In addition, they also provide: high storage stability, excellent curing properties, excellent electric insulating properties, and excellent mechanical strength (column 55, lines 3-32).***

Murai et al. and Ikushima et al. teach analogous ionic polymerizable resin systems, and both resin systems utilize a curing catalyst that incorporates a thermally activated cationic polymerization catalyst in order to provide a temperature-controlled crosslinking mechanism. The cationic polymerization catalysts used by Ikushima et al. have the same core structure as the cationic polymerization catalysts used by Murai et al., with the exception of the specified hydrocarbon group. Because both sets of cationic polymerization catalysts are used for the same purpose (temperature controlled crosslinking), it would have been obvious to have used the cationic polymerization catalysts of Murai et al. in the composition of Ikushima et al. to provide the added benefits of better storage stability and improved curing properties, electric insulating properties, and mechanical strength.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a cationic polymerization catalyst featuring: *1)* a substituted hydrocarbon group having a carbon number of more than 10, *2)* a nonsubstituted hydrocarbon group having a carbon number of more than 10, or *3)* a cyclic organic structure having a more than 10 carbon

number hydrocarbon group, as taught by Murai et al., in the resin composition of Ikushima et al. because Murai et al. disclose that this type of cationic polymerization catalyst provides: *a)* temperature controlled crosslinking, *b)* high storage stability, *c)* excellent curing properties, *d)* excellent electric insulating properties, and *e)* excellent mechanical strength in an ionic polymerizable epoxy/acrylic resin system.

Regarding claims 9-12, Murai et al. and Ikushima et al. are as set forth above and incorporated herein.

Ikushima et al. do not teach the use of a thermally-activating ionic polymerization catalyst that further includes compounds represented by formulae: (III-1'), (III-1), or (III-2), set forth in instant claims 9-12.

Murai et al. teach the use of a second curing catalyst that is used in combination with the cationic polymerization catalyst (column 3, lines 25-30; column 37, lines 37-52). This second curing catalyst corresponds to compounds (III-1'), (III-1), and (III-2) of the instant claims (column 3, line 25 through column 40; column 37, line 37 through column 40, line 35). This combination of catalysts achieves the same benefits of the lone ionic polymerization catalyst; hence, Murai establishes that these materials are recognized in the art as suitable catalyst for this type of composition. In light of this, it has been found to be obvious to select a know material based on its suitability for its intended purpose – *see MPEP 2144.07.* The use of this combination in Ikushima et al. would have been obvious.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a cationic polymerization catalyst featuring: *1)* a substituted hydrocarbon

group having a carbon number of more than 10, *2)* a nonsubstituted hydrocarbon group having a carbon number of more than 10, or *3)* a cyclic organic structure having a more than 10 carbon number hydrocarbon group; and a catalyst compound corresponding to formulae (III-1'), (III-1), or (III-2), as taught by Murai et al., in the resin composition of Ikushima et al. because Murai et al. disclose that this combination of cationic polymerization catalyst and secondary curing catalyst provides: *a)* temperature controlled crosslinking, *b)* high storage stability, *c)* excellent curing properties, *d)* excellent electric insulating properties, and *e)* excellent mechanical strength in an ionic polymerizable epoxy/acrylic resin system.

Response to Arguments

15. Applicant's arguments filed February 17, 2004 have been fully considered but they are not persuasive.

16. Applicants' first argument (regarding claims 23 and 26) is regarding the preamble language. It has been established above that a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). In this instance, the preamble merely recites the intended use, and the claim body can stand on its own.

17. Applicants' second argument (regarding claims 39 and 30) is that Murai et al. do not use "thermally-activating" catalysts. The catalysts taught by Murai et al. exactly match the ones set

forth throughout the instant claims and specification; therefore, this property would have been inherent. The burden shifts to Applicant to prove otherwise.

18. Applicants' third argument (regarding claim 24) is that the prior art fails to disclose the claimed viscosity of (iii-1). The epoxy functional monomers taught by references meet the structural limitations of the claims; hence, this viscosity would have been inherent. The burden shifts to Applicant to prove otherwise.

19. Applicants' fourth argument (regarding claim 28) is that the prior art fails to disclose the specifics of the laminated printed circuit board. As discussed above, these features would have been inherent of the electronic laminated boards taught by Murai et al.

20. Applicant's fifth argument (regarding claims 1, 35, and 36) is that neither reference, alone or in combination teaches or suggests the elements of these claims. The examiner respectfully disagrees. In the above rejection, it has been demonstrated that these compositions are analogous and that there is a motivation to combine these teachings – to provide: *a)* temperature controlled crosslinking, *b)* high storage stability, *c)* excellent curing properties, *d)* excellent electric insulating properties, and *e)* excellent mechanical strength in an ionic polymerizable epoxy/acrylic resin system.

Allowable Subject Matter

1. Claims 18-22, 38, 43, 54, and 55 are allowed.

2. Claims 14, 33, and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. The following is a statement of reasons for the indication of allowable subject matter: *Claims 18-22, 38, 43, 54, and 55* are allowable for the reasons set forth in the prior Office action. *Claim 14* is allowable because neither Murai et al. nor Ikushima et al. teach or suggest a solvent-free method of preparing the composition of claim 1.

Claims 33 and 34 are allowable because the prior art fails to teach or suggest using the coating of claim 32 in concert with a color filter or a liquid crystal display.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Feely
Patent Examiner
Art Unit 1712

May 17, 2004